SEEING THROUGH THE FOG: THE EVOLUTION OF PROBLEM FRAMING IN UNITED STATES ARMY DECISION-MAKING DOCTRINE

A Monograph

by

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This investigation looks at the evolution of problem framing in U.S. Army decision-making doctrine, and its applicability to the planner at the operational level of war. It contends that operational environments have shaped U.S. Army's decision-making doctrine. Specifically, this investigation looks at the development, and eventual codification, of problem framing in U.S. Army decision-making doctrine from the 1930s to the present.

The U.S. Army decision-making doctrine has adapted and evolved over time to help planners address complexities in operational environments. Further, doctrine's adaptations and evolutions have influenced how operational planners have framed problems in their respective environments. For the purpose of this inquiry, four doctrinal periods comprise this evolution: the Interwar Period (1930s-40s), the Containment Period (1950s-60s), the AirLand Battle Period (1970s-1980s), and the Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF) Period (2008-present day).

In addition to challenges posed by the environment, planners may face cognitive challenges that hinder effective problem framing: planning in complexity, the trappings of categorical thought, and overcoming constructed biases. Hence, this investigation illuminates how contemporary U.S. Army decision-making doctrine may assist planners navigating through complex problems.

Concerning the continued development of planners as problem framers, three recommendations arose from this investigation. The Army should consider: merging of the army design methodology and military decision-making process into a single process, re-titling of Step 1 ("Receipt of Mission") of the military decision-making process, and increasing the feedback mechanics of exercises conducted at the Command and General Staff College. These recommendations foster the cultivation of critical and creative thinking – qualities necessary for proficient problem framing.

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The opinions and conclusions expressed herein are those of the student author, and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other government agency. (References to this study should include the foregoing statement.)

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proficient problem framing.

ACRONYMS

ADM	Army Design Methodology
ADRP	Army Digital Reference Publication
AMSP	Advanced Military Studies Program
ATTP	Army Tactics, Techniques and Procedures
CGSC	U.S. Army Command and General Staff College
FM	Field Manual
FSR	Field Service Regulation
MCPP	Marine Corps Planning Process
MCWP	Marine Corp Warfighting Publication
MDMP	Military Decision-making Process
MMAS	Masters of Military Art and Science
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
OPT	Operational Planning Team

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INTRODUCTION

Guys are consumed with being right, instead of getting it right.[1]
—Colin Cowherd, *You Herd Me!*

In his book, *We Meant Well: How I Helped Lose the Battle for the Hearts and Minds of the Iraqi People*, Peter Van Buren expressed his dismay at the U.S. State Department's and Army's missteps in identifying and understanding problems in the post-combat environment of Iraq. In a chapter entitled "Chicken Shit," Buren recounted his visit to a multi-million dollar poultry plant in Baghdad that the State Department had purchased and constructed. On this visit, Buren discovered the Iraqis had left the plant vacant. He recalled, "There was no evidence of chicken killing as we walked past a line of refrigerated coolers. When we opened one fridge door, expecting to see chickens chilling, we found instead old buckets of paint."[2] Undoubtedly the poultry plant had a purpose, and surely its designers had a problem in mind that the plant would solve. However, over the course of Buren's visit, it became clear that the plant did not solve any problems. Rather, it had actually created new problems.

One associate remarked that the plant offered a means to increase employment in the area. However, the plant relied largely on automation; thus, it required minimal staffing. Another claimed that surveys showed that the Iraqis would favor fresh, local chickens vice the existing practice of importing frozen chickens from Brazil. However, Iraq did not have the infrastructure to support the growing and feeding of live chickens to sustain the plant. Thus, the resultant cost of Iraqi chickens nearly doubled the cost of the imported chickens – in effect, decreasing the market demand. A final associate believed that the chicken plant served as a

[1]Colin Cowherd, *You Herd Me!: I'll Say It If Nobody Else Will* (New York: Crown Archetype, 2013), 265.

[2]Peter Van Buren, *We Meant Well: How I Helped Lose the Battle for the Hearts and Minds of the Iraqi People* (New York: Metropolitan Books, 2011), 141.

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means to increase the protein in the Iraqis' diet. Poor problem framing aside, even prior to the plant's construction, USAID had assessed the "investment in the Iraqi fresh-poultry industry [as] a high-risk operation."[3]

Nevertheless, the U.S. taxpayer had bought the Iraqis' a state-of-the-art poultry plant that sat unused. The Department of State's plant proponents undoubtedly had good intentions, right? They believed they had understood a problem (unemployment, market price, protein in diet), and had constructed a proper solution. As Buren summed up, "We measured the impact of our projects by their effect on us, not by their effect on the Iraqis."[4] Unfortunately, the planners neither properly framed the problem nor understood the effects of inserting the poultry plant (new energy) into the Iraqi socio-economic environment (a complex system).

Buren's vignette demonstrates that a well executed solution apart from sufficiently understanding the problem may prove counterproductive. Problem framing has, and will, continue to challenge planners – whether civilian or military. Concerning U.S. Army planners, current decision-making doctrine has identified problem framing as a critical tool to assist in the cultivation of a commander's understanding of a situation. According to U.S. Army conceptual planning doctrine, the act of problem framing helps planning teams to identify impediments, or tensions, which may hinder the achievement of a desired military end state. Within this doctrine, operational planners may find tools and methods to help them see through the fog of today's complex environments, to frame problem(s), and to produce viable options for a commander's decision.[5]

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[3]The USAID report assessed a poultry plant operation as high risk for the following reasons: lack of infrastructure to sell fresh chickens, prohibitive costs, lack of consumer data for fresh chicken, unable to compete with imports from USA and Brazil, unable to break-even in slaughterhouse operations costs, and the inability to lower working capital requirements. Buren, *We Meant Well* 144-145.

[4]Van Buren, *We Meant Well*, 144.

[5]Department of the Army, ADRP 5-0: *The Operations Process* (Washington, DC: United States Army, 2012), 2-9 - 2-10.

This investigation looks at the evolution of problem framing in U.S. Army decision-making doctrine, and its applicability to the planner at the operational level of war. It contends that operating environments have shaped the U.S. Army's decision-making doctrine over the last half century. Specifically, it looks at how decision-making doctrine has shifted over time (from the 1930s-40s to the present) as the U.S. Army's operating environments have become more complex. This increase in complexity has led to the development, and eventual codification, of problem framing in U.S. Army decision-making doctrine. [6]

The role of problem framing has not always been explicitly defined in U.S. Army decision-making doctrine. The contemporary problem framing concepts codified in ADRP 5-0 have emerged through a series of doctrinal shifts over the last half century. Compared with the interwar period and Second World War decision-making doctrine (Estimate of the Situation), the current army design methodology (ADM) and military-decision making process (MDMP) illuminate significant shifts, or evolutions, in operational-level planning. For the purpose of this inquiry, four doctrinal periods comprise this evolution: the Interwar Period (1930s-40s), the Containment Period (1950s-60s), the AirLand Battle Period (1970s-80s), and the Operation Iraqi

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[6]For the purposes of this investigation, the author defines complex, or complexity, in terms of the quantity and the degree of interdependency between variables in an environment. For more on the definition of complex, refer to page 36. Regarding audience, Though operational level planners are the primary audience for this analysis, the understanding of the concepts and challenges concerning problem framing has value for staff and commanders the strategic, operational, and tactical levels. For most areas of this analysis, one may consider "planner" as synonymous with "officer," and "Operational Planning Team (OPT)" with "staff." In regards in the U.S. Army decision-making doctrine, for the scope of this thesis the author relied primarily on the FM 100-5, FM 101-5, ADRP 3-0, and ADRP 5-0 series of publications. Specifically within those publications, the author focused on the decision-making doctrine concerning the estimate of the situation, the military decision-making process, and the army decision methodology at the operational level.

Freedom (OIF)/Operation Enduring Freedom (OEF) Period (2008-present day).[7]

During the 1930s and 1940s, the U.S. Army staff and commanders implicitly used problem framing concepts to formulate decisions. Within the construct of the Estimate of the Situation, planners focused on how mission variables could impede a commander's mission. The term mission variables, as found in current doctrine, refers to variables that include, "mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC)."[8] A shorter list comprised the early versions of the Estimate. For instance, the 1941 *Field Service Regulations – Operations*, required that commanders only consider the effects of weather, terrain and the enemy on their mission. Not until after the Second World War did external variables (known in current doctrine as operational variables) start to emerge as planning considerations. In the aftermath of the Nagasaki and Hiroshima, doctrine writers began to incorporate variables beyond weather and terrain into the decision-making analysis – specifically the inclusion of political, economic and social concerns.[9]

With the implementation of the Army's AirLand Battle concept in the 1980s, planners revived the warfare paradigms of Russia's 1920s deep attack and the Second World War's conventional battlefields. While recognizing that the environment had grown more complex, the U.S. Army primarily focused on framing and resolving military problems in terms measurements and calculations. However, the collapse of the Soviet Union and the rise of globalization in

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[7]The author developed these periods through independent study for the purpose of this investigation. Other divisions of doctrine do exist. For example, Dr. Aaron Jackson, in his monograph: "The Roots of Military Doctrine," broke doctrine into four doctrinal periods (Technical, Tactical, Operational, and Strategic) that roughly associate with Antoine Bouquet's four scientific paradigms (Mechanical, Thermodynamics, Cybernetics, and Chaoplextic). Aaron P. Jackson Dr., *The Roots of Military Doctrine: Change and Continuity in Understanding the Practice of Warfare*, Combat Studies Institute Press (Fort Leavenworth, KS: Combat Studies Institute, 2013), 11-46. Antoine Bousquet, *The Scientific Way of Warfare: Order and Chaos On the Battlefields of Modernity* (New York: Columbia University Press, 2009), 30-35.

[8]Department of the Army, ADRP 5-0, 1-7.

[9]ADRP 5-0 has since expanded that list to include: political, military, economic, social, information, infrastructure, physical environment, and time. Department of the Army, ADRP 5-0, 1-7.

1990s manifested greater degrees of complexities as the world shifted and sorted its self out at the end of the century. These effects increased the complexity of operating environments going into the 21st century. This increase required decision-making doctrine that looked as critically at narratives and tensions, as it did at force ratios and march rates.

In addition to environmental challenges, planners may face the cognitive challenges that could hinder their effectiveness at framing a problem. Planners should be aware of the following cognitive challenges: planning in complexity, trappings of categorical thought, and overcoming constructed biases. In addressing these challenges, this investigation illuminates how contemporary U.S. Army problem framing concepts may assist planners navigating through complex problems.

Concerning the continued development of planners as problem framers, three recommendations arise from this investigation. The Army should consider: merging of the army design methodology and military decision-making process into a single process, re-titling of Step 1 ("Receipt of Mission") of the military decision-making process, and increasing the feedback mechanics of exercises conducted at the Command and General Staff College. These recommendations foster the cultivation of critical and creative thinking – qualities necessary for proficient problem framing.

PROBLEM FRAMING AND THEORY ON DOCTRINE DEVELOPMENT

> If you know the enemy and know yourself, you need not fear the result of a hundred battles. If you know yourself, but not the enemy, for every victory gained you will also suffer a defeat.
>
> ―Sun Tzu, The Art of War[10]

In the above epigraph, Sun Tzu captured one of the gravest challenges to operational planners: obtaining an appropriate understanding of the problem at hand. Sun Tzu's two fold

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[10]Sun-Tzu, *The Art of War*, trans. Ralph D. Sawyer (New York: Basic Books, 1994), 177.

charge of knowing one's enemy and knowing one's self, may mislead a planner toward thinking problem framing is simple. Planners would do well to heed Carl von Clausewitz's warning: "In war all things are simple, but the simplest is the most difficult."[11] Problem framing requires critical and creative thought – both of which take considerable energy and effort. The Army defines problem framing as the process involved with "identifying and understanding those issues that impede progress toward the desired end state."[12]

Problem framing helps an operational planning team (OPT) to "ensure they are solving the right problem, instead of solving symptoms of the problem."[13] Furthermore, proper framing of a problem allows for the OPT to meet the intent of Mission Analysis (Step 2 of the military-decision making process). Problem framing facilitates discourse amongst the staff and command to cultivate clarity of understanding and visualization of an operational environment; thus, enhancing the command's ability to describe and direct the operation at hand.[14] James Loffert, 2002 graduate of the Army Advanced Military Studies Program (AMSP) program, wrote in his monograph entitled, "Mission Analysis: Giving Commanders What They Need," that the Mission Analysis step helped "the commander place the situation into proper context and come as close as possible to understanding that reality that is currently confronting them."[15] The Army Tactics, Techniques, and Procedures (ATTP) 5-0.1 referred to mission analysis as "the most important step in the MDMP."[16] Thus, if mission analysis is the "most important," then the doctrine of

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[11]Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton Press, 1976), 119.

[12]Department of the Army, ADRP 5-0, 2-9.

[13]Department of the Army, ADRP 5-0, 2-9.

[14]Department of the Army, ATTP 5-0.1: *Commander and Staff Officer Guide* (Washington, DC: Department of the Army, 2011), 4-26.

[15]James Loffert, "Mission Analysis: Giving Commanders What They Need" (Monograph, School of Advanced Military Studies, 2001-02), 17.

[16]Department of the Army, ATTP 5-0.1, 4-26.

framing an environment and its associated problem(s) is paramount.

Generally speaking, doctrine reflects what an organization deems important, and in turn, it may influence the culture of that organization. The Army is no different. Generally speaking, the Army uses doctrine as a template to guide staffs and commanders in formulating appropriate responses to an existing or assumed problem. Doctrine is not, nor should be, set in stone. However, once in place, doctrine does have the capacity to influence how a planner perceives and practices the concepts of problem framing. In his book, *Young Men and Fire,* author Norman Maclean captured this capacity.[17]

Maclean's book detailed the events surrounding the 1949 Mann Gulch Fire in Montana – a wilderness fire that took the lives of 13 members of a 16-man smokejumper team. Though the team had deployed with the appropriate equipment to fight a wildness fire, the shifting character of the Mann Gulch Fire caught the team cognitively ill equipped. When the fire acted in manner that conflicted with their theory for fire behavior, the team did not demonstrate the ability to think critically and properly frame the problem (with the exception of Dodge, the team lead). Under the influence of 1920 smokejumper doctrine, the team struggled to grasp at an understanding of how the Mann Gulch environment had manipulated the character of the fire.[18]

Sociologist Peter Berger and Thomas Luckmann referred to this struggle between realities as a "shock" in their book *The Social Construction of Reality*. They wrote, "I am

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[17]Norman Maclean's book, *Young Men and Fire*, serves as the introduction book for AMSP block of instruction called: Theory of Operational Art. The book demonstrates how theory may be used to explain an event, and then used to shape future actions aligned with similar events. Students distill from the book the concept of theory being applied to history, to which shape doctrine, to which influences actions of the practioners. Norman Maclean, *Young Men and Fire*, English Language ed. (Chicago: University Of Chicago Press, 2012).

[18]Through routine practices, they had constructed a standard routine – or, in a manner of speaking, a battle drill – for extinguishing wild fires: conduct an afternoon jump; then, spend the evening setting conditions to degrade the fire; and finally, extinguish the remnant of the fire come morning. So normalized was this routine, they coined the term: 10 o'clock fires – signifying that the team would have extinguished the fire by 10 o'clock the following morning. Maclean, *Young Men and Fire*, 34.

conscious of the world as consisting of multiple realities. As I move from one reality to another, I experience the transition as a kind of shock...waking up from a dream illustrates this shift most simply."[19] Berger and Luckmann posited that individuals and groups create realities through habitual actions. These routine actions shape and influence the character of the group's subjective reality. Over time, and with consensus, that reality may become so normalized that it becomes an objective reality. [20]

The Mann Gulch smokejumpers relied on a doctrine constructed from the 1920's understanding of fire behavior theories. In doing so, they, consciously or unconsciously, allowed the doctrine to permeate their perceptions of the fire's behavior, and in effect, cause them to limit the variables they considered for problem framing and analysis. In the pursuit of the fire, the smokejumpers overlooked the relationship between the environmental factors (variables) and the fire (a threat); and how those factors would, and did, influence the tenacity of the fire's behavior.[21]

The Maclean's story illustrated a critical lesson for operational planners: a properly framed problem should illuminate relationships between a threat and an environment. Dodge, the team lead, understood that the environmental factors had fueled the intensity of the fire. With this understanding, he visualized that fleeing to the top of the ridgeline would be a futile effort. Therefore, he reframed the problem from "How do I out run the fire?" to "What in the environment can I influence that will impact the fire?" In igniting an escape fire, he influenced the fire to circumvent him in search of fuel (foliage) to burn.

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[19]Peter Berger and Thomas Luckmann. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* (New York: Anchor Books, 1967), 21.

[20]For further reading on the authors' thoughts and theories on objective reality, refer to Part II of their book (pages 47-116). Berger and Luckmann, *The Social Construction of Reality,* 61.

[21]Maclean discovered over his investigation that the types of foliage, the slope of the Gulch, and the wind all impacted the character of the fire; and resulted in fire that behaved abnormally. Maclean, *Young Men and Fire*, 270.

Similar to Dodge's experience, today's decision-making doctrine directs planners to synthesize a multitude of factors as part of their problem framing. This explicit practice of framing a problem, however, was not always clearly reflected in U.S. Army decision-making doctrine. Rather, its significance emerged over time as doctrine has changed to address changes in the environment. Thomas Kuhn, author of *The Structure of Scientific Revolutions*, provided insight into why doctrine changes over time.

Kuhn posited that scientific paradigms may change over time to explain new anomalies that generate crisis in a given environment. Kuhn posited that scientists form paradigms on the basis of theoretical models. When an anomaly arises, scientists use three methods to address it: 1) apply a current paradigm, 2) determine that the anomaly is beyond existing knowledge and shelve it, or 3) develop a new paradigm. Kuhn noted that a paradigm does not solve or explain every anomaly. Rather, a paradigm aims to address the most relevant anomalies for an environment.[22] Kuhn's theory is reflected in Maclean's post-fire narrative. In that, based on the new theories forged from the Mann Gulch Fire, the smokejumpers refined their doctrine. In a similar manner, the Army has shifted its theories of warfare that shape its doctrine to address known or pending crisis causing anomalies.

Regarding changes in doctrine, Frank Kitson, author of *Low Intensity Operations*, wrote that there exist two approaches to preparing for the next war: predictions based off of known threats, or predictions based off anticipated emergence of a "form of war."[23] For example, the Army in the early 1973s found itself in the middle of these two approaches. Should the Army develop doctrine for continued proxy wars to stop the spread of communism, or develop doctrine

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[22]Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996), 84.

[23]Frank Kitson, *Low Intensity Operations: Subversion, Insurgency, and Peacekeeping* (St. Petersburg: Hailer Publishing, 1969), 13.

to fight Russia in the Fulda Gap? With AirLand Battle, the Army effectively chose the latter.

However, caution exists with either approach – or attempting to carry forwards the past and

anticipating the future simultaneously.

Regarding carrying forward lessons of the past, David Petraeus wrote an article for

Parameters cautioning military planners against blindly lifting lessons learned from the past and

overlaying on current problems. In it he wrote, "Nor should Vietnam be permitted to become

such a dominant influence in the minds of decision makers that it inhibits the discussion of

specific events on their own merits."[24] In effect, Petraeus warned that planners should treat each

situation as a unique environment with variables unique to itself. Similarities have, and will,

continue to exist from one operational environment to the next, but planners should carry such

assumptions cautiously, and feel unthreatened if assumptions are proved false.

Concerning the future end of the spectrum, it remains the realm of the unknowable.

More than once when speaking to students at CGSC and SAMS, a senior military leader has

shared a story concerning the ambiguity of the future. To paraphrase the story, the leader posited

that if 50 years ago he/she had predicted that: in 2001 a disenfranchised group of Muslims living

in the caves of Afghanistan would employ a handful of men with box cutters to hijack American

planes, and crash them into skyscrapers – listeners would certainly have dismissed the prediction

and predictor. While difficult to know the future, reading the proverbial tea leaves is certainly not

impossible. In 1962, his commencement address to West Point cadets, President John F.

Kennedy seemed clairvoyant concerning today's social upheavals, and the increased presence of

U.S. forces across the world,

> The fact of the matter is that the period just ahead in the next decade will offer
> more opportunities for service to the graduates of this Academy than ever before in the

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[24]David H. Petraeus, "Lessons of History and Lessons of Vietnam," *Parameters* 16, no. 3
(Autumn 1986): 43-53. This citation specifically referenced from ILE (AY 2013-2014) History 300
readings, 301.

history of the United States, because all around the world, in countries which are heavily engaged in the maintenance of their freedom, graduates of this Academy are heavily involved. Whether it is in Viet-Nam or in Laos or in Thailand, whether it is a military advisory group in Iran, whether it is a military attaché in some Latin American country during a difficult and challenging period, whether it is the commander of our troops in South Korea--the burdens that will be placed upon you when you fill those positions as you must inevitably, will require more from you than ever before in our history.[25]

The ideas in Kennedy's speech seem to fall in line with today's Arab Spring movements, instability in Central and South America, and recent theories of warfare that have posited that the world has shifted towards a "paradigm of war amongst the people."[26]

In summary, problem framing is a critical component to the Army's decision-making doctrine. Problem framing allows planners to distill vital tensions in an operational environment through narrative, discourse and modeling. It, as an intuitive act, has always played out implicitly in decision-making across time and space, but only since the inclusion of design concepts in the last five years has it been explicitly practiced. The increasing complexities in battlefields and operational environments over time have led to changes in U.S. Army decision-making doctrine, and to the emergence of problem framing as a formal part of the process.

THE INTERWAR PERIOD (1930s-1940s)

The decision-making doctrine during the interwar period focused on conventional, state-on-state warfare in anticipation of the next European continental war. The innovation of the combustible engine, combined with the distaste for the First World War's trench warfare, inclined armies to incorporate motorized and mechanized vehicles into their formations. Russia's

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[25]John F. Kennedy: "Remarks at West Point to the Graduating Class of the U.S. Military Academy," June 6, 1962. Post online by Peters and Woolley; accessed January 23, 2014, http:www.presidency.ucsb.edu/ws/?pid=8695.

[26]Rupert Smith argued that state-on-state, or industrial, warfare has diminished. In its place, non-state actors, or people, have seemed to serve as the source of confrontations. Furthermore, he posited that the old structure of military build up, war, and peace has subsided with the diminishment of industrial warfare; and that the world has entered into an era of constant confrontation. Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Vintage Books, 2007), 185.

Alexander Svechin and Michal Tuchachevksy developed early concepts of deep battle through the synchronization of combined arms warfare. Germany's Heinz Guderian led efforts to include motorized and mechanized units into the army. Charles De Gaulle, of France, and Basil Liddell Hart, of Britain, each supported the inclusion of motorization and mechanization within their respected state's armies.[27] The addition of motorized and mechanized weaponry added to the complications of warfare, but they did not necessarily manifest greater degrees of complexity.

Although the interwar armies shifted away from positional-based warfare, the environment and character of warfare had not changed significantly. The state-on-state warfare of the First World War remained the foundation for theory and doctrine during the interwar period. Its exclusive character allowed doctrine to focus U.S. Army planners and commanders to focus on mostly four mission variables: the mission at hand, the expected enemy, terrain and weather. These variables represented the core of the Estimate's analysis for guiding the commander towards a decision.

The Estimate of the Situation served as the primary decision-making tool in the Army's doctrine from the interwar period until the emergence of the military-decision making process in the mid-1980s. The Estimate consisted of five areas: the mission (or tasks) from higher, the effects of weather, the effects of terrain, the composition of the enemy forces (intelligence reports), and status of the friendly force. Regarding problem framing, the period's operational publications (FM 100-5 of 1923, 1939, 41, 49) and staff guides (FM 101-5 of 1940, 50) say little in terms problem framing for "identifying and understanding" factors beyond core mission

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[27]Murray and Millet provide an account of the political and military proponents and opponents within Germany, Britain and France concerning motorization and mechanization. Williamson Murray and Allan R. Millett, eds., *Military Innovation in the Interwar Period* (London: Cambridge University Press, 1998), 6-49. For an account of the Russian theorist during the 1920s and 1930s, Condoleezza Rice's essay in *Makers of Modern Strategy* provides a concise and sufficient portrayal of the Russian military theorist including mechanized and motorized assets into their formations. Condoleezza Rice, "The Making of Soviet Strategy" in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, ed. Peter Paret (Princeton: Princeton University Press, 1986), 648-76.

variables.[28]

With this information compiled, the commander would consider his drafted course of action; and ultimately, render a decision. These latter steps roughly parallel today's COA development, COA Analysis, and COA Approval steps in the MDMP. The 1940 FM 101-5 structured the Estimate into a 5-paragraph order. Figure 1 illustrates how the structure of Estimate of the Situation compared with the current MDMP structure:[29]

Estimate of the Situation (1940)	Military-decision Making Process (2011)
1: Mission	1: Receipt of Mission
2: Situation and Opposing Lines of Action	2: Mission Analysis
3: Analysis of Opposing Lines of Action	3: Course of Action (COA) Development
4: Comparison of Own Lines of Action	4: COA Analysis
5: Decision	5: COA Comparison
	6: COA Approval
	7: Orders production, dissemination, and transition

Figure 1 – The U.S. Army's decision-making doctrine in 1940 and 2011

Source: FM 101-5 (1940) and ATTP 5-0.1 (2011)

In 1941, the Army made significant changes to the Estimate. Two of these changes included: emphasizing the commander's role, and expansion of the Estimate's mission variable analysis. Doctrine writers pushed to emphasis the Estimate of the Situation as a commander's decision-making tool. In doing so, writers restructured the FM 100-5 to capture this emphasis within the frame of the chaptering of the FM. For instance, they advanced the Estimate from

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[28]The FM 100-5 series of manuals during the interwar period largely focused on the operational and tactical levels of war (below corps level). The FM 100-5 (1941) stated that "it contains the doctrines of leading troops in combat and tactics of the combined arms." War Department. FM 100-5: *Operations* (Washington, DC: Government Printing Office, 1941), II. The 1944 and 1949 FMs had similar descriptions as the 1941. Also, each publication suggested that the FM 100-5 series ought to be coupled with th*e* FM 100-15*: Larger Units* series of manuals (designed for echelons at corps level and above).

[29]FM 101-5, Appendix I provided greater detail of each of the five paragraphs for the Estimate. The MDMP steps were taken from the ATTP 5-0.1 (2011). War Department, FM 101-5 (Washington, DC: Government Printing Office, 1940), 125-127. Department of the Army, ATTP 5-0.1, 4-3.

Chapter 7 to Chapter 4 – following Chapter 3: "Leadership." Doctrine writers, further, replaced

the previous title of "Troop Leading" with a new one that emphasized the commander's role:

"The Exercise of Command." In addition to identifying it as an exercise of command, the 1941

publication explicitly identified the Estimate as the commander's tool: "the commander's

estimate of the situation is based on the mission of the unit, the means available to him and to the

enemy, the conditions in his area of operations including terrain and weather, and the probably

effects of various lines of action on future operations."[30]

The effects of mechanization and motorization influenced doctrine writers to expand the

FM 100-5's analysis of terrain and weather. The 1941 FM 100-5 provided greater depth and

breadth in terms of terrain analysis. Whereas the 1939 publication merely listed terrain as a

factor for consideration, the 1941 publication dedicated an entire section to the effects of terrain

on a mission. This publication listed the following five areas for consideration: observation,

fields of fire, concealment and cover, and routes of communication.[31] In a similar expansion, the

1949 FM 100-5 publication had expanded its guidance concerning the analysis of weather from

"study…the weather and gain an appreciation of [its] influence on the task" in 1939, to the

analysis of climatology, light data, periods of day and night, development of ground haze, phases

of the moon; and stipulated that "terrain and weather are inseparable."[32]

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[30]War Department, FM 100-5: *Operations* (Washington, DC: Government Printing Office, 1941), paragraph 127, page 25.

[31]War Department, FM 100-5: *Operations* (Washington, DC: Government Printing Office, 1941), 27.

[32]War Department, FM 100-5 (1939), 185; and Department of the Army, FM 100-5: *FSR Operations* (Washington, DC: Government Printing Office, 1949), 125. COL Christopher Paparone, in a 2001 *Military Review* article, attributed the expansion of planning considerations to educational shifts at the Army's Command and General Staff College. Paparone pointed to the college's educational shift from orders formatting to the planning processes as a root cause of the shift. Christopher Paparone, "US Army Decisionmaking: Past, Present and Future", *Military Review* 81, no. 4 (July-August 2001): 46. For more on the development of the military education during the interwar period, Peter J. Schifferle's book serves as an excellent source. Peter J. Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II* (Lawrence: University of Kansas, 2010).

The interwar period decision-making doctrine held two consistent concepts in terms of problem framing. First, each of the *Operations* manuals – 1939, '41, '44, and '49 – cautioned Army commanders from believing that he/she knew the enemy's intentions. As the 1941 manual bluntly put it, "Above all, the commander must guard against believing that he has discovered the enemy's intentions."[33] The Naval War College's 1936 publication, *Sound Military Decision*, echoed the spirit of that caution in noting, "Human conduct does not lend itself to analysis as readily as do mathematical and physical phenomena."[34] Second, given the tactical focus of the FM 100-5 series, the doctrine placed the mission largely at the center of the Estimate. All efforts to understand an environment and enemy fell subject to how they may have impacted the mission.

In summary, the anticipation of conventional warfare in Europe largely shaped the U.S. Army's doctrine from 1930s through the 1940s. The basic structure and spirit of the Estimate did not radically change over this period. Rather, parts of it were expanded in anticipation of new forms of warfare. For instance, the motorization and mechanization of military forces altered the perceived dimensions of the battlefield – arguably made them conceptually and physically larger. Thus, the shifting away from fixed, positional warfare doctrine of the First World War toward the combined arms and mobility doctrine of the Second World War, required greater analysis in terms of terrain and weather in order to render appropriate decisions.

The problem framing elements of the Estimate of the Situation from the interwar period through the end of the Second World War focused on the following considerations: a threat concept that anticipated conventional war, theories of warfare base on a closed system environment, doctrine that emphasized measuring tangible mission variables, and a significant

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[33]War Department, FM 100-5 (1941), 56.

[34]U.S. Naval War College, *Sound Military Decision* (Annapolis: Naval Institute Press, 1942), 23.

reliance on the commander's *coup d'oeil*.[35] External forces such as civilians or politics do not

factor into the Estimate. However, those forces would play a considerably larger role for

operational level planners in the following period.

THE CONTAINMENT PERIOD (1950s-1960s)

The aftermath of the atomic bomb and the cessation of hostilities in the Korean War had

an effect on how the Army planners would approach, and frame, problems in the 1950s and into

the 60s. Post-Hiroshima and Nagasaki, the fear of small conflicts escalating into nuclear warfare

gave U.S. Army doctrine writers reason to expand decision-making considerations. The advent

of nuclear weaponry meant that intangible variables – like politics and economics – required

analysis and consideration. Military planners worked to merge tactical effects with desired

strategic conditions in order to avoid an escalation to nuclear warfare. The interwar period's

Estimate that had featured primarily the effects of weather and terrain had become obsolete – if

not dangerous.

The Korean War produced two pertinent effects for operational planners. First, despite

the efforts of the tactical commanders in Korea, the conflict did not end with a Napoleonic-

decisive blow to an adversary's military. Though, one might argue that without the inclusion of

Chinese forces, just such a Napoleonic would have sufficed for victory. Army planners had to re-

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[35]Regarding *coup d'oeil*, Carl von Clausewitz wrote of the *coup d'oeil* in the sense of one's ability to perceive truth rapidly, vice one requiring significant time to process data into understanding. Doctrine of the interwar period does not address Carl von Clausewitz's *coup d'oeil* explicitly. However, the structure and design of the school system of Fort Leavenworth's staff school created an implied reliance on the commander's *coup d'oeil*. Peter Schifferle, author of *America's School for* War, discussed the educational gap that existed between the commanders and their staff. He revealed that in 1941 "many of the Leavenworth graduates found themselves as general officers teaching under-educated junior officers to be general staff officers, or as chiefs of staff at the division level, bridging the gap between the Leavenworth educated commanders of the Division and their junior, and all-too-often non-Leavenworth trained, general staff officers." Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton Press, 1976), Chapter 3, 102. Peter J. Schifferle, "Anticipating Armageddon: The Leavenworth Schools and United States Army Military Effectiveness, 1919 to 1945" (PhD diss., University of Kansas, 2002), 343.

think how they qualified a victory: Could a tactical draw equal a strategic victory? Or, as in the case of Vietnam: Could amassing tactical wins still result in the perception of a loss?

Second, the Korean War demonstrated a shift from the Second World War's closed battlefield system to a more open battlefield system.[36] For instance, the advance of Chinese soldiers south across the Yalu River into the war provided new elements and energies into the environment. The infusion of Chinese forces provided a new enemy for consideration, and required Army planners to reframe and refine their understanding of the situation.

These occurrences helped to shape the doctrine of this period. The 1954 FM 100-5 publication represented another significant evolutionary step concerning the problem framing. It produced two notable shifts in regards to the Estimate and problem framing: the increased role of the staff, and the expansion of planning variables to include social, economic, and political factors.

Regarding the staff's increased role, the 1954 FM 100-5 manual significantly truncated its explanation of the Estimate, but expanded its explanation in the period's FM 101-5 series. The context of the interwar period Estimate was that the "process grew from the belief that few geniuses would be available so a commander needed to be trained to make good decisions according some standardized method."[37] Thus, the 1941 and 1949 FM 100-5 publications had each dedicated nearly 10 pages to outlining the Estimate. Whereas the interwar doctrine, and officer schooling at Fort Leavenworth, may have "under-valued the importance of the staff," this

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[36]For an excellent description of open and close systems refer to Jamshid Gharajedaghi's *Systems Thinking*. Gharajedaghi identified the nature of organizations as mechanical, biological or sociocultural – or close, less close, and open. In a mechanical, or closed, organization the characters act in a linear fashion with predictable cause and effect consequences. In a sociocultural, or open, organization the characters are influenced by intangible senses of purpose and information. Thus, predicting outcomes based on effects proves more difficult. Jamshid Gharajedaghi, *Systems Thinking: Managing Chaos and Complexity: a Platform for Designing Business Architecture*, 2nd ed. (Boston, MA: Butterworth-Heinemann, 2006), 10-13.

[37]Lynch, "Problem Solving under Time Constraints," C-3.

period saw an edification of the staff's role.[38] The truncated version of the Estimate in the 1954

FM 100-5, combined with expanded explanations of the Estimate in the FM 101-5 series

demonstrated a shift in decision-making culture. The greater openness of battlefields fostered

greater complexity – that is, actors and variables had greater interplay and interdependence –

which required broader analysis to frame a problem.

The broadening of analysis led to the second significant change: the emergence of

operational variables. In a manner of speaking, the sense of the term battlefield began to take the

form of today's concepts of operational environments.   For instance, the term "battlefield" felt

very matter-of-fact (battle, a specific act), and closed off (field, like a sport field); whereas, the

contemporary term "operational environment" invokes a greater sense of ambiguity and

openness. In addition to considering the enduring factors of weather and terrain, the 1954

publication carries forward the characteristics for considerations of the 1950 FM 101-5:

"Political, economic, and sociological conditions are evaluated to determine the degree of

assistance or interference they will present to the projected operation."[39]

In summary, the Korean and Vietnam Wars altered the dynamics of the battlefield from

World War I and World War II. In contrast to discrete character of these wars, the American

experience in Korean War did not have a clear ending, and in the Vietnam War did not have a

clear beginning. The Korean War proved to be a porous system – allowing for an influx of

Chinese fighters in the field of battle. The Vietnam War suggested that tactical planning factors

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[38]In his dissertation, Peter J. Schifferle assessed that the education system at Fort Leavenworth, Kansas during the interwar period may have an unintended consequence of de-valuing the staff. Refer to footnote 38 for additional information regarding the commander and staff relationship regarding education. Schifferle, "Anticipating Armageddon," 209.

[39]FM 101-5 (1950) first included the considerations of such operational variables (page 59). Nested into Paragraph 2 of the Estimate of the Situation, it listed "politics, economics, and sociology (including manpower, psychology, and public welfare)" as characteristics for consideration in an area of operations. Department of the Army, FM 100-5: *Operations* (Washington, DC: Department of the Army, 1954), 32.

(i.e., mission variables) were too myopic for a planner to be effective. These dynamics, combined with fears of nuclear destruction, all had a significant impacts on how planners viewed the battlefield. These environmental shifts gave cause to change aspects of doctrine. Concerning problem framing in the Estimate, these changes included, though not limited to: the enhanced role of the staff and the inclusion of non-military planning variables (i.e., political, economic and social considerations). These shifts doctrine demonstrated an evolutionary bridge towards today's unified land operations doctrine. However, the decision-making doctrine of the Army's AirLand Battle Period, some may argue, took an evolutionary pause.

THE AIRLAND BATTLE PERIOD (1970s-1980s)

Three powerful forces drove theory and doctrine writers in the 1970s and 1980s: the experiences of Vietnam War, the weaponry employed during 1973 Yom Kippur War, and the re-professionalizing of the U.S. Army. Aiming to regain its identity as professional force, the Army found itself at the crossroads of the two former forces: should it develop theories and/or doctrine for warfare based off of Vietnam or theories of warfare based off of a known threat – Russia.[40] Assessing Russia as an existential threat, and wanting to depart from the pains of Vietnam, the Army chose the latter. During this period, the Army developed two battle concepts: Active Defense, followed by AirLand Battle. These battle concepts, mostly AirLand Battle, advanced new technologies and fostered the codification of the operational level of war into doctrine.

In hindsight, historians have also been critical of the character of the doctrine. Brian McAllister Linn, historian and author of *The Echo of Battle*, posits that the post-Vietnam Army "proved more revival than revolutionary."[41] Similarly, Dr. Aaron Jackson, author of "Roots of

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[40]Kitson posited that a military writes its doctrine on based on known, or perceived, threats or forms of warfare. For more on Kitson, refer to page 9.

[41]Brian McAllister Linn, *The Echo of Battle: The Army's Way of War* (Harvard: Harvard University Press, 2009), 232.

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Military Doctrine," assessed that the army had "reoriented" towards Europe, and that the "central mechanism enabling this reorientation was doctrine."[42] For instance, consider the contrast in how the Army defined its role in 1968 and then in 1976,

> Military power is that element of national power which is designed to apply force in the implementation of national policy and in the attainment of national objectives.
>
> FM 100-5: *Operations* (1968), 1-3

> THE ARMY'S primary objective is to win the land battle–to fight and win in battles, large or small, against whatever foe, wherever we may be sent to war.
>
> FM 100-5: *Operations* (1976), 1-1

The 1968 publication suggested a more conceptual, whole of government approach to military planning and execution. It suggested that what happens at the tactical level of war may not stay at that level; thus, tactical action must be nested with strategy: "apply force in the implementation of national policy." In contrast, the 1976 publication seems to harken back to Napoleonic warfare and the interwar period paradigms. Linn captured this sentiment in noting, "unlike the previous FM 100-5s that valued the human element over technology, the 1976 version declared that 'battlefield effectiveness' resulted from weapons wielded by skilled technicians."[43] This conceptual shift in doctrine seemed counter to President John F. Kennedy's warning to the 1962 graduates of West Point: "West Point was not built to produce technical experts alone."[44]

General Donn Starry, in his 1983 *Military Review* article: "To Change an Army," asserted that the 1976 *Operations* manual "needed maturing."[45] Robert Scales, author of *In Certain Victory: The US Army in the Gulf War*, further touched on the manuals operational

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[42]Jackson, "The Roots of Military Doctrine," 19.

[43]The 1976 manual did address "The Human Element" in Chapter Three, but it only addressed considerations regarding the mental and physical conditions of friendly forces. For additional information concerning the development of doctrine post-Vietnam, refer to Jeffrey W. Long's Masters of Military Art and Science thesis: "The Evolution of U.S. Army Doctrine: From Active Defense to AirLand Battle and Beyond." (Master's thesis, Command and General Staff College, 1991). Linn, *The Echo of Battle,* 203.

[44]Kennedy: "Remarks at West Point to the Graduating Class of the U.S. Military Academy."

[45]Donn Starry, "To Change an Army", *Military Review* 63, no. 3 (March 1983): 25.

immaturity in noting, "it reflected practical soldiering…it included detailed tutorials on the lethality, accuracy and range of weapons."[46] Lynn wrote "FM 101-5 emphasized technology and tried to impose mathematical rules and predictability….[which] translated into adherence to force ratios and target servicing, as if combat war merely an arcade shooting game with real bullets."[47] The focus on tactics and winning battles was re-enforced with the creation and emphasis placed on combat training centers.

Journalist Thomas E. Ricks wrote, "trainers at the [National Training Center] taught commanders how to win battles, not how to win wars. What came after the battle became someone else's business."[48] In reflection concerning the Gulf War, General Frederick Franks asserted, "the closer we got to the end, the less we focused."[49] In his book, *The Echo of Battle*, Linn noted that the Invasion of Panama and the Gulf War were textbook AirLand operations, but both "mis-addressed or ignored the day after the battle."[50] One might argue that General Tommy Franks, a product of this generation of doctrine, fulfilled this legacy in his haphazard transition from combat to stability operations in Iraq.[51] Gideon Rose, a military historian, wrote that planners aptly used the tactics of AirLand Battle to win in the Gulf War, but contested that Army planners did look to define the problem beyond the first fight: "What happened after the fighting

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[46]Scales Robert, *In Certain Victory: The US Army in the Gulf War* (Washington, DC: Department of the Army, 1993), 13.

[47]Linn, *The Echo of* Battle, 204 and 207.

[48]Thomas E. Ricks, *Fiasco* (New York: Penguin Group, 2006), 132.

[49]Linn, *The Echo of Battle*, 222.

[50]Linn, *The Echo of Battle,* 220.

[51]Thomas Ricks' book, *Fiasco*, captured this assertion. Ricks claimed, "Gen. Franks appeared to believe that planning for the end of the war was someone else job." Ricks, *Fiasco*, 132. In his book, *American Soldier*, GEN Franks asserted that he did have plan for post-combat operation, but lacked the necessary resources to carry out the plan. H. Thomas Hayden review of *American Soldier*, by GEN Tommy Franks, *Military.com*, August 11, 2004, 1, accessed January 25, 2014, http://www.military.com/NewContent/0,13190,Hayden_081104,00.html.

stopped was somebody else's problem."[52]

From the Second World War to the time of AirLand Battle, the world had grown interdependent. The days of Napoleon's decisive, single military blow to end a war had long ended. Whereas Napoleon could invade Prussia in isolation, the domino effect of interlocking defense treaties WWI and WWII testified that isolation was no longer feasible. The Russian influence, and eventual Chinese entrance, into the Korea War added to this shifting of an army's operational environment. The Vietnam War not only demonstrated the influence of external states, but also illuminated the influence of non-state actors. Speaking to West Point Cadets in 1962, President John F. Kennedy captured this increased complexity, "You will need to understand that importance of military power and also the limits of military power, to decide what arms should be used to fight and when they should be used to prevent a fight, to determine what represents our vital interests and what interests are only marginal."[53]

One should note not simply what the President said, but who he addressed: a graduating class of West Point cadets. Addressing cadets suggested that he anticipated that company level officers might have found themselves in situations that required them to understand the effects of their military decisions, and to discern between vital and marginal military interest. His guidance in 1962 would be appropriate today, but seemed shelved in the 1970s and 1980s.

The 1970s, and subsequently 1980s, FM 100-5 publications attempted to re-institute the practice of delivering a decisive blow. It primarily focused on preparing and fighting a continental war between two superpowers.[54] For instance, the 1982 manual pulled in historical vignettes to substantiate its claims. These vignettes included the American Civil War, World War

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[52]Gideon Rose, *How Wars End: Why We Always Fight the Last Battle* (New York: Simon & Schuster Paperbacks, 2010), 220.

[53]Kennedy, "Remarks at West Point to the Graduating Class of the U.S. Military Academy."

[54]Linn, *The Echo of Battle,* 210.

II and the Korean War; but excluded any reference to the Army's longest, and most complex, conflict: the Vietnam War.[55] Jeffrey Long claimed AirLand Battle was "less consistent with external factors than the previous editions of FM 100-5."[56] He furthered his point in adding, "Rather than building a consensus for the doctrine that answered operational requirements, AirLand Battle doctrine codified the doctrinal preference of the Army."[57] In his book *Fiasco,* Ricks captured the Army's attempt to break ties with Vietnam in noting that the Army's foundational operations manual (FM 100-5: *Operations*, 1976) omitted counterinsurgency warfare.[58] Lawrence Freedman, a British foreign policy advisor and author, commented, "after Vietnam, the US armed forces demonstrated a marked aversion to counter-insurgency operations."[59]

In addition to its cultural and conceptual departures from previous FM 100-5s, the 1976 manual's decision-making doctrine departs structurally through omitting any mention of the Estimate of the Situation or a commander's estimate (the Estimate had shifted completely to the FM 101-5 series of staff manuals, with no significant changes.). However, doctrine writers would make significant additions to the planning process in the 1984 FM 101-5.

In the Chapter Five of the FM 101-5 (1984), the Guide indicated that "recognizing and defining the problem" as the first step in developing "solutions to a problem(s)."[60] The manual

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[55]Historical vignettes found on pages 3-1, 3-5, and 3-7 in FM 100-5 (1982). This reference to historical examples was found in Jeffrey Long's MMAS, "The Evolution of U.S. Army Doctrine from Active Defense to Airland Battle and Beyond," 47.

[56]Long, "The Evolution of U.S. Army Doctrine from Active Defense to Airland Battle and Beyond," 301.

[57]Long, "The Evolution of U.S. Army Doctrine from Active Defense to Airland Battle and Beyond," 304.

[58]In his book, Ricks attributes this thought to John Nagl. Ricks, *Fiasco*, 133.

[59]Lawrence Freedman, *The Transformation of Strategic Affairs* (New York: Routledge, 2006), 5.

[60]Department of the Army, FM 101-5: *Staff Organization and Operations* (Washington, DC: Department of the Army, 1984), 5-1.

retained the staff and commander's estimate, but they now fed into a grander process: the military

decision-making process (MDMP).[61] With the inclusion of the operational level of war in the

1980s' U.S. Army doctrine, the MDMP provided the commander and staff a tool to synthesize

information, sequence actions, identify risks and render a decision in an orderly process. Staffs

and commanders still wrote estimates, but at the operational level, these estimates became

supporting documents to the MDMP. Additionally, the 1984 edition explicitly codified mission

analysis as a step (Step 3), and defined it as "the means through which the commander obtains an

understanding of the mission." It involves: the tasks to be performed, the purpose to be achieved

through accomplishing the assigned tasks, and the constraints on the units' actions.[62] The 1984

structure of the MDMP consisted of 10 steps, as opposed to the 2011 seven-step version.

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[61]COL Paparone suggested that MDMP steps appeared in doctrine as early as the 1972 FM 100-5. Paparone, "US Army Decisionmaking," 47. Of note, Rex R. Michel argued, in his Research Report 1577, that a nascent version of the military decision-making process appeared first in the 1960 publication of FM 101-5. The 1960 FM 101-5 does insert a chapter entitled, "Sequence of Actions in Making and Executing Decisions" prior to a subsequent chapter, "Estimate of the Situation." However, the 1960 publication largely held true to the shape and format of the Estimate; whereas, the MDMP's shape and format codified in the 1984 publication truly resulted in new process. For more on Michel's report, read: Rex R. Michel, "Historical Development of the Estimate of the Situation," Research Report 1577 (Fort Leavenworth: US Army Research Institute for the Behavioral and Social Sciences, October 1990), 3.

[62]Department of the Army, FM 101-5 (1984), 5-8.

Military-decision Making Process (1984) Military-decision Making Process (2011)
  1: Mission Received   1: Receipt of Mission
  2: Information to Commander and Staff   2: Mission Analysis
  3: Mission analysis   3: Course of Action (COA) Development
  4: Staff Estimates   4: COA Analysis
  5: Commander's Estimate   5: COA Comparison
  6: Preparation of Plans/Orders   6: COA Approval
  7: Approval of Plans   7: Orders production, dissemination, and transition
  8: Issuance of Plans
  9: Supervision
  10: Mission Accomplished

Figure 2 – The U.S. Army's decision-making doctrine in 1984 and 2011

Source: FM 101-5 (1984) and ATTP 5-0.1 (2011)

The wire diagram (Figure 3) of the 1984 MDMP, below, depicts two items worth addressing in regards to problem framing. First, this early version of MDMP still featured the commander as the primary conduit for analysis as it depicted mission analysis in the commander's column. The current ATTP 5-0.1 lessened the gravity of commander's involvement in the mission analysis process. The 2011 manual retained the notion that the commander was critical to the overall process, but offered that commanders "guide planning staffs" and acknowledged the inability of commanders "to devote all their time to the MDMP."[63] Second, the diagram illustrated feedback loops as a formal part of the process. Decision-making doctrine going back to the interwar period has stated that the analysis process of a mission is continuous. However, the formal inclusion of feedback loops as part of the process is unique to the 1980s planning doctrine.[64] Their inclusion suggested that theorist of the time began to acknowledge the existence and impact of emergent variables. Emergent properties are a trait of complex systems; which means that operational planners at the time had acknowledged a shift

[63]Department of the Army, ATTP 5-0.1, 4-2.

[64]Paparone, "US Army Decisionmaking," 47.

from complicated and towards complex problem solving. Therefore, despite critiques of the doctrine being a "revival" of old theories, the inclusion of feedback loops reflected a progressive quality of the decision-making doctrine.
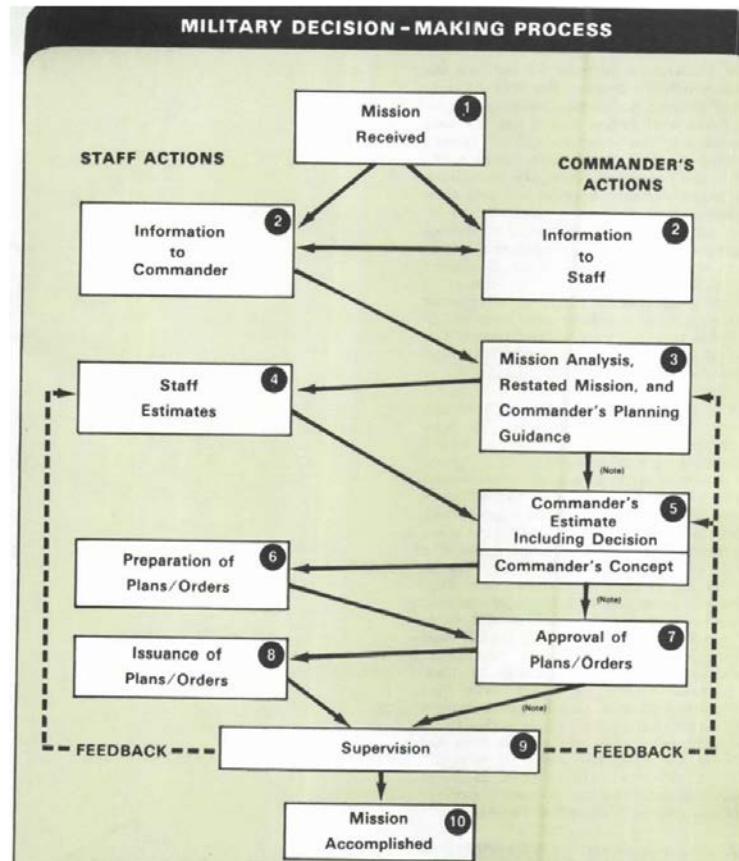
Figure 3 – Feedback loops in the Military Decision-making Process
Source: FM 101-5 (1984)

In summary, the spirit and structure of the Estimate of the Situation remained largely unchanged until the 1984 publication of FM 101-5. In the 1984 manual, doctrine writers combined the formal commander's estimate and staff estimate tools to form the MDMP model. The MDMP carried forward the Containment Period's doctrinal notions of leaning heavily on the

staff to facilitate the commander's understanding and visualization. Unlike the pervious period, though, AirLand Battle doctrine re-emphasized framing problems through calculation and metrics. This influenced planners to frame problems in terms of mission variables. This manner of looking at a problem led to tremendous success against a conventional threat in a closed system during the 1991 Gulf War. However, to respond to the increasing complexities of the 21st century, operational planners needed a planning doctrine that shaped how they thought about narratives and relationships, as much as the doctrine shaped how they perceived calculations and metrics.

THE OIF/OEF PERIOD (2008-Present day)

For the last decade the United States has waged a global war on terrorism.   Ascending from the rubble of the September 11th terrorists' attacks, the campaign has sought to diminish state sponsored terrorism. [65] However, the shifting character of terror networks has tempered some of its success. The infusion of the United States and its coalition military partners into the complex system of terrorism created new interdependencies and greater complexities that characterize terror networks.[66] The narrative of today's complex terror threat started roughly four decades ago in the 1980s. Three environmental shifts help to put into context the rise of regional tensions into global threats, such as terrorism: the diminishing effects of the Cold War Era's

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[65]A 2013 CIA report assessed that the US and its coalition partners' counter-terrorism efforts as having "convinced some governments to curtail or even abandon support for terrorism as a tool of statecraft." "National Strategy for Combating Terrorism," Central Intelligence Agency, accessed November 3, 2013, https://www.cia.gov/news-information/cia-the-war-on-terrorism/Counter_Terrorism_Strategy.pdf. Also, see footnote 80 for more on the United States' pursuit of terrorists' financial support systems.

[66]A 2011 Geneva Centre of Security Policy stated, "trafficking drugs is the most common criminal act that is uniting organized criminals with terrorist." In 2012, the United States Drug Enforcement Administration identified 19 terrorist groups with links to drug trafficking criminal elements. Christina Schori Liang, *Shadow Networks: The Growing Nexus of Terrorism and Organised Crime* (Geneva: Geneva Centre for Security Policy, 2011), 4. Samuel Musa, *Combating Transnational Organized Crime: Strategies and Metrics for the Threat* (Washington, DC: National Defense University, 2012), 1.

bipolarity (1950-80s), the effects of globalization (1990s), and the effects of the United States'

GWOT campaign (2000s).

Louise Shelley, of the Department of State, reflected that the twilight of the Cold War

Era witnessed a diminishing fear of a third world war - which helped to foster the "phenomenal

rise in the number of regional struggles."[67] Though a conventional, state-on-state warfare theory

dominated military doctrine, political and theoretical discourse began to shift away from winning

the first fight against a super-power, and towards setting conditions in troubled states favorable to

U.S. interests.[68] In the 1980s the United States sustained a deterrence strategy directed at the

Soviet Union; but it simultaneously devoted efforts and resources to the war on drugs in Central

and South America.

In 1981, the United States ambassador to the United Nations stated, "Central America is

the most important place in the world for the United States today."[69] In the summer of 1989

Steven David, of John Hopkins, criticized the hyper-realists that dismissed third world states.[70]

He predicted that "there is a good chance that Americans will become involved if there is trouble

in the Third World; hence the United States should try to keep order there, since it probably will

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[67]Louis Shelley, "The Globalization of Crime and Terrorism", *eJournal USA* (2006). Accessed October 28, 2013, http://iipdigital.usembassy.gov/st/english/publication/2008/06/20080608103639xjyrrep4.218692e-02.html#axzz2jXRaXPpb.

[68]In 1989 a SAMS student applied the elements of operational art to the U.S.' war on drugs initiative. This monograph may provide some insights into the minds of operational planners at that time. The author concluded his analysis with concepts that departed from the "win the first fight" theme of that period, but appeal to contemporary concepts of the operational decision-making: "Solutions will not be quick or easy, and are going to depend largely on the political will of the elected leaders from the western nations and on the character and moral courage of their people." Matthew L. Smith, "The War On Drugs: Can an Operational Artist Help Win It?" (Monograph, School of Advanced Military Studies, 1989), 36.

[69]Walter Lafefer, "The Reagan Administration and Revolutions in Central America", *Political Science Quarterly* 90, no. 1 (Spring, 1984): 1, accessed October 23, 2013, http://www.jstor.org/stable/2150256.

[70]Steven R. David, "Why the Third World Matters", *International Security* 14, no. 1 (Summer, 1989): 52-54; 60, accessed October 23, 2013, http://www.jstor.org/stable/2538765.

not have the self-restraint to stay out if order breaks down."[71] President George H.W. Bush warned in '89 that the "gravest domestic threat facing our nation today is drugs" from the Central and South America.[72]

With the Soviet Union collapsed in 1991, new opportunities arose for troubled state and non-state actors to achieve regional power and influence.[73] Like the bipolarity of Thucydides' world, of Athens and Sparta, the United States and Russia ostensibly held the world's system in balance – or at least tempered its actors' aggressions. Kenneth Waltz, author of *Theory of International Politics*, underscored this notion in positing that a multipolar world has a greater potential to generate war, than a bipolar.[74]

Globalization, combined with relaxed defensive posturing between states, created space for the black markets to expand – specifically markets that dealt in weaponry. The same free market ideology and de-regulation of border practices that fostered legal economic growth and prosperity, also provided criminal and terror networks a way to exchange means to accomplish their ends.[75] The emergence of the Internet provided terror groups the capability to network

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[71]David, "Why the Third World Matters," 60.

[72]Eytan Gilboa, "The Panama Invasion Revisited: Lessons for the Use of Force in the Post Cold War Era", *The Academy of Political Science* 110, no. 4 (Winter 1995-1996): 557, accessed October 23, 2013, http://www.jstor.org/stable/2151883.

[73]Liana Sun Wyler, *Weak and Failing States: Evolving Security Threats and U.S. Policy* (Washington, D.C.: Congressional Research Service, 2008), 5. In addition to Liana sun Wyler, international terrorism expert, Rohan Gunaratna, put forth that the end of the Cold War witnessed "a multiplicity of threats, of which, the principle threats [were] terrorism and organized crime." Former military defense advisor to the Prime Minister of Britain, David Fisher, punctuated Gunaratna's observation in writing, "The decades since the fall of the Berlin Wall have not heralded the era of peace that had been hoped for." Fisher went on to note, "over this period British forces, like those of the USA…have been more actively engaged in military operations worldwide than at any time since World War II." Rohan Gunaratna, "Asia Pacific Organized Crime and International Terrorist Networks," *South Asia Terrorism Portal*, 2001, 4, accessed November 2, 2013, http://www.satp.org/satporgtp/publication/books/global/gunaratna.htm. David Fisher, *Morality and War: Can War by Just in the Twenty-First Century* (Oxford: Oxford University Press, 2011), 161.

[74]Robert Jervis, "Thinking Systemically About Geopolitics", *Geopolitics* 15, no. 1 (2010): 165-67.

[75]Shelley, "The Globalization of Crime and Terrorism."

beyond their region, and for that matter beyond their group's business model. Social, ideal-based terror groups in the Middle East could now exchange business models and plans with economic, financial-based drug cartels across in the Americas. In 2001, Senator John Kerry attributed threat of criminal network expansion to the spread of communism during the Cold War.[76]

Similar to the collapse of the Soviet Union and the rise of globalization, the GWOT campaign of the last decade has altered the system of terror networks. While GWOT tactically sought to neutralize terror cells, operationally and strategically the campaign sought to degrade the financing of terror.[77] With the state as no longer a viable option for funding, some terror groups had to look elsewhere – namely, to drug cartels.

In 2008, the U.S. Drug Enforcement Agency reported that at least 19 of U.S. State Department's 43 Foreign Terrorist Organizations had established links to drug trafficking.[78] In 2009, the Washington Times ran a story detailing Hezbollah's usage of Mexican drug routes to filter people and arms into the United States.[79] A 2011 Geneva Policy Paper argued that the financial benefits from the nexus of narco-terrorism has allowed for protracted conflicts.

[76]Anrdeas and Price, "From War Fighting to Crime Fighting," 37.

[77]In his book, *Bush at War*, author Bob Woodward depicted President's overt concerns over not just the terrorist leaders and groups, but those who financed terrorist. For instance, in speaking with the Japanese Prime Minister, Woodward recorded Bush's concerns, "In this war, cutting off funding is just as important as dropping a bomb." Bob Woodward, *Bush at War* (New York: Simon & Schuster Paperbacks, 2002), 138.

[78]This report also found that "a surge in the number of transnational crime groups emerging in safe havens of weak, conflict prone states…links between transnational crime and terrorists groups are also apparent: Al Qaeda and Hezbollah have worked with several criminal actors…" Wyler, *Weak and Failing States,*" 7. An additional 2008 article found that U.S. and Columbian authorities charged a Columbian criminal group with narcotics and money laundering. Further investigation revealed that the group, largely consisting of Lebanese expatriates, distributed profits from their criminal activities to Hezbollah affiliates in Lebanon. Jacobson and Levitt, "Tracking Narco-Terrorism Networks," 117. In 2011, Admiral James Stavridis, then serving as Commander of the US European Command, assessed the relationship between drug traffickers and terrorists as "a growing security threat." Christina Schori Liang, *Shadow Networks: The Growing Nexus of Terrorism and Organised Crime* (Geneva: Geneva Centre for Security Policy, 2011), 2.

[79]B. Conery, "Hezbollah Uses Mexican Drug Routes Into U.S.," *Washington Times*, March 27, 2009, accessed November 2, 2013, http://www.washingtontimes.com/news/2009/mar/27/hezbollah-uses-mexican-drug-routes-into-us/?page=all.

Furthermore Gretchen Peters, author of *Seeds of Terror* and "How Opium Profits the Taliban,"

attested that intelligence groups believe that Taliban forces in southern Afghanistan "now fight

for profit rather than religion or ideology."[80]

One may argue that the existential threats that existed during the interwar period and then

during the Cold War Era, are absent in today's global environment. Truly, security threats and

challenges do persist, but none so perilous that they challenge the existence of the United States.

Thus, how the U.S. Army sees its today has shifted once more. The contemporary operational

environments seem to rekindle the spirit of the 1968 purpose of the U.S. Army. Consider, again,

the development of how the Army defined its role over the last three periods:

> Military power is that element of national power which is designed to apply force
> in the implementation of national policy and in the attainment of national objectives.
> FM 100-5: *Operations* (1968), 1-3

> THE ARMY'S primary objective is to win the land battle–to fight and win in
> battles, large or small, against whatever foe, wherever we may be sent to war.
> FM 100-5: *Operations* (1976), 1-1

> Unified land operations describe how the Army seizes, retains, and exploits the
> initiative to gain and maintain a position of relative advantage in sustained land
> operations through simultaneous offensive, defensive, and stability operations in order to
> prevent or deter conflict, prevail in war, and create the conditions for favorable conflict
> resolution.
> ADRP 3-0: *Unified Land Operations* (2012), 1-1

Placing the '76 doctrine between the '68 and '12 punctuates the "revival" qualities of the

AirLand Battle Period. The Army's role in 1968 bridges almost seamlessly into how the Army

sees its role and position today. Furthermore, just as the doctrine from the FM 100-5 (1968)

period expanded the Estimate to consider both mission and operational variables; the Army's

current doctrine has expanded to codify detailed (the MDMP and TLP) and conceptual (the

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[80]Liang, *Shadow Networks,* 4. Additionally, in 2010, the United Nations had estimated that "the international drug trade generates $322 billion a year, making drugs by far the most lucrative illicit activity." Jacobson and Levitt, "Tracking Narco-Terrorism Networks," 118.

ADM) planning methodologies.

In 2001, COL Christopher Paparone wrote an article for the *Military Review* in which he assessed that the MDMP needed refinement. He wrote, "In future MDMP, the goal is to turn estimates of the situation into situational understanding."[81] Additionally, he concluded that the Army needed a process that would "enhance decision makers' intuition" and would shift the "Army culture from placing value on analytic (procedural)" aspects of the MDMP to give equal weight to its more multidimensional aspects.[82] Over the last decade, the Army has attempted to enhance the MDMP through the addition of design concepts. Whereas the MDMP focused on procedure and analytics, the design process focused on discourse and conceptualization.

The *Art of Design* (2010) captured the essence of design: Effective application of design is the difference between solving a problem right and solving the right problem.[83] The momentum for design came from the complex character of the Iraqi and Afghani operational environments. Operations in these environments demonstrated that the MDMP assisted planners in solving complicate and complex problems, but that it failed to help planners discern whether they were resolving the source(s) of a problem or merely symptoms. As a result of the apparent ineffectiveness of the MDMP as a decision-making instrument, the fanfare and academic momentum concerning the concepts of design theory propelled it into decision-making doctrine.

The inclusion of the ADM into the U.S. Army's decision-making doctrine took time and iteration. The FM 5-0 (2008) listed the MDMP as Chapter 3 in its table of contents, and had no inclusion of design as a formalized planning process. Two years later, in FM 5-0 (2010), the doctrine writers had replaced the MDMP in Chapter 3 with Design, and had moved the MDMP to

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[81]Paparone, "US Army Decisionmaking," 52.

[82]Paparone, "US Army Decisionmaking," 52.

[83]Alex Ryan, *Art of Design,* 2nd ed. (Fort Leavenworth: School of Advanced Military Studies, 2010), 129.

Appendix B. Furthermore, the introduction to Appendix B noted, "to conduct the MDMP effectively, leaders must first understand the fundamental of planning and design."[84] This overhaul seemed to demote the MDMP as a decision-making tool. The ADRP 5-0 *(2012)* corrected that demotion, and re-instated the MDMP back in to the primary body of the publication. It placed the ADM, MDMP and TLP methodologies all in Chapter 2 under the heading "Planning Methodologies." Figure 4 illustrates the development of U.S. Army decision-making doctrine,

MDMP (1984)	MDMP (2008)	*ADM* and MDMP (2011)
		1. Frame the Environment
		2. Frame the Problem
		3. Design Operational Approach
1: Mission Received	1: Receipt of Mission	1: Receipt of Mission
2: Information to Commander and Staff	2: Mission Analysis	2: Mission Analysis
3: Mission analysis	3: Course of Action (COA) Development	3: Course of Action (COA) Development
4: Staff Estimates	4: COA Analysis	4: COA Analysis
5: Commander's Estimate	5: COA Comparison	5: COA Comparison
6: Preparation of Plans/Orders	6: COA Approval	6: COA Approval
7: Approval of Plans	7: Orders Production	7: Orders production, dissemination, and transition
8: Issuance of Plans		
9: Supervision		
10: Mission Accomplished		

Figure 4 – The U.S. Army's decision-making doctrine in 1984, 2008, and 2011

Source: FM 101-5 (1984), FM 3-0 (2008) and ATTP 5-0.1 (2011)

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[84]Department of the Army, FM 5-0: *Operations* (Washington, DC: Department of the Army, 2010), App B.

The ADRP 5-0 divided operational level planning into two categories: conceptual and detailed. Doctrine associated the ADM with conceptual planning, and MDMP with detailed. However, although distinct, the two are not necessarily exclusive in practice. The Army's ADRP 5-0 publication identified ADM as tool to foster understanding, visualization and description of problems; and "must be integrated with the detailed planning typically associated with the MDMP to produce executable plans."[85] Within the ADM construct, doctrine writers had included a section concerning framing. The framing process enables planners to build mental models of an environment; that in turn, will deepen a commander and staff's understanding of a problem, and influence how they visualize viable options to form a decision.[86]

According to current doctrine, planners employ problem framing concepts to help design suitable operational approaches that connect current states to desired end states. ADRP 5-0 defines the task of problem framing as, "identifying and understanding those issues that impede progress toward the desired end state."[87] This guidance sounds similar to doctrine of the interwar period. However, there exist nuance differences that influence how a planner goes about framing a problem.

For instance, both the Estimate of the Situation and the MDMP focus planning attention on a commander's mission. ADRP 1-02 defined mission simply as a task.[88] Thus, the Estimate and the MDMP analyze and synthesize operational and mission variables to understand how and what impacts they will have on a given task. In contrast to the myopic scope of "mission," ADRP

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[85]Department of the Army, ADRP 5-0, 2-4, 2-5.

[86]Department of the Army, ADRP 5-0, 2-5.

[87]Department of the Army, ADRP 5-0, 2-9. The Student Text (Ver. 2.0), *Art of* Design, provided an expanded definition for problem framing: Problem framing involves understanding and isolating the root causes of conflict – the essence of a complex, ill-structured problem. Alex Ryan, *Art of Design,* 137.

[88]Department of the Army, ADRP 1-02: *Terms and Military Symbols* (Washington, DC: Department of the Army, 2012), 1-38.

1-02 defines end state as a set of conditions.[89] Thus, problem framing analyzes and synthesizes

variables to understand how their relationships may impact each other in the environment – not

solely on how they impact the task. The endeavor in problem framing is more heuristic and

relational, and less discrete and categorical then the detailed planning methodologies. To be

clear, problem framing should not replace mission analysis process. However, proper problem

framing may lead to a more effective process of mission analysis; and thus, to greater

understanding and clearer visualization for the commander and staff.

In summary, the world has shifted closer to a multipolarity construct since the collapse of

the Soviet Union. While this shift has not resulted in an existential threat to the United States, the

shift has empowered benevolent and malcontent states and non-state actors globally.[90] Today's

conflicts are waged in terms of ideas, narratives and relationships; as much as, if not more, than it

is waged in measures of land, air and sea power. The current landscape of persistent conflict

amongst people has required that the Army infuse new theories of warfare and methods of

decision-making into its doctrine. Furthermore, the codification and implementation of new

planning methodologies may help operational planners to undergo a "shift of mind" in how they

see the environment and its actors.[91] This shift may help planners to overcome the challenges

associated with developing viable options in today's operational environments.

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[89]Department of the Army, ADRP 1-02, 1-21.

[90]Joseph Nye posited that two shifts of power have occurred over the last couple of decades: power transition and power diffusion. Power transition describes the distribution of power across states. Power diffusion describes the distribution of power from states to non-state actors. For more information regarding the shifts of power, read Joseph S. Nye Jr., *The Future of Power*, Reprint ed. (New York: PublicAffairs, 2011), xv-xvi and Chapters 1, 5, and 6.

[91]Peter Senge spoke of shifting of one's mind in Chapter 5 of his book. Like Dietrich Doerner, Senge did not ascribe to the idea that brilliance just happens. Rather, through time, repetition and deliberate awareness one may shift his/her mode of thinking. Peter Senge, *The Fifth Discipline: The Art*, 2nd ed. (USA: Doubleday, 2006), 68-92. Doerner noted, "[T]here is not a magic wand or hidden treasure that will instantly make us deep and powerful thinkers." Dietrich Doerner, *The Logic of Failure: Recognizing and Avoiding Error in Complex Situations*, trans. Rita Kimber and Robert Kimber (New York: Metropolitan Books, 1996), 7.

CHALLENGES

> Above all, the commander must guard against believing that he has discovered the enemy's intentions.
>
> —FM 100-5: *Operations* (1941)[92]

While complex environments present their own unique challenges to planners, cognitive challenges may appear as equally problematic. The cognitive challenges that impeded the 1949 smokejumpers and the 2009 State Department poultry plant designers from correctly framing a problem persist within today's operational planning teams. In 1996, Dietrich Doerner, author of *The Logic of Failure*, wrote, "real improvement can be achieved, however, if we understand the demands that problem solving places on us and the errors that we are prone to make when we attempt to meet them. Our brains are not fundamentally flawed; we have simply developed bad habits."[93]

Hence, operational planners would do well to consider the challenges he or she may bring into the problem-framing arena. In general, planners continue to face the cognitive challenges of: planning in complexity, the trappings of categorical thought, and overcoming constructed biases. To help mitigate the adverse effects associated with these challenges, contemporary U.S. Army decision-making doctrine provides planners the necessary direction to chart through the fog of today's environmental complexities and cognitive challenges to produce viable options for a commander.

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[92]War Department, FM 100-5 *(*1941*)*, 56.

[93]Doerner, *The Logic of Failure,* 7.

Planning in Complexity

If, as this investigation posits, contemporary military problems will continue to emerge from complex systems, it is imperative that an operational planner understands what a complex system entails. Doerner defines complexity as the "existence of many interdependent variables in a system. The more variables and the greater their interdependence, the greater that system's complexity."[94] Shelia Ronis, of the Strategic Studies Institute, attested that "the most important characteristic is that complex systems cannot be controlled – at best, they can be influenced."[95] Thus, a planner should anticipate that any decision to act upon a complex system will have a ripple effect across the environment - effect that very possibly produces unforeseeable consequences.

The expanding effects, such as globalization and mass communication, have resulted in a more interconnected and empowered world system. For example, two decades ago, the United States and coalition forces liberated Kuwait from the Iraqi military with minimal influence from external militaries or agencies. The Gulf War's operational environment assumed the form of a closed system; meaning that, external actors (state or otherwise) largely did not interact in the conflict. In contrast, the United States and its coalition forces found themselves back in Iraq a decade later, but engaged within a characteristically different environment. Various state and non-state actors entered and exited the area of operations with little impedance or regulation. This openness added greater fog, confusion and complexity onto the United States and coalition forces' efforts. For instance, Figure 2 provides a simple illustration that captures the delineation between the complicated threat system in the 1991 Gulf War and the complex threat system in
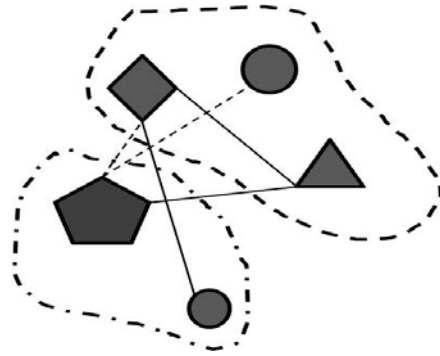
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[94]Doerner, *The Logic of Failure*, 38.

[95]Shelia Ronis Dr., ed., "The Need For Grand Strategy Development: Lessons From The Project On National Security Reform And Singapore," in *Forging an American Grand Strategy: Securing a Path through a Complex Future*, 107; assessed October 27, 2013, http://www.StrategicStudiesInstitute.army.mil.

Operation Iraqi Freedom (OIF) campaign of the last decade,
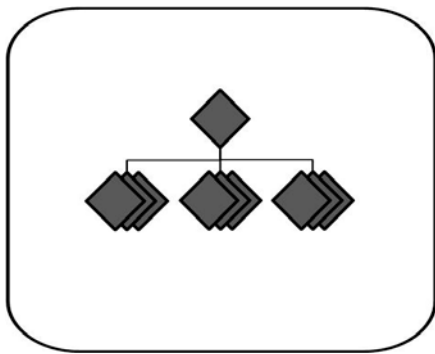
Gulf War Complicated Threat Structure   OIF Complex Threat Network

Figure 5 – Complicated verse Complex Threats

Source: Created by the author.

In his book *The Logic of Failure*, Dietrich Doerner, addressed two concepts concerning planning through complex environments that may assist with problem framing: 1) thinking in terms of systems and 2) anticipating unforeseen problems. With regards to thinking in terms of systems, Doerner wrote, "we must learn that in complex systems we cannot do only one thing…any step we take will affect many other things."[96] Doerner professed the criticality of feedback for improving one's ability to think in terms of systems. This notion of feedback speaks

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[96]Doerner, *The Logic of Failure* 198.

to the to the concept and practice of asking: Then what?[97]

The inclusion and codification of problem framing in doctrine significantly helps planners to think in terms of feedback. Instead of funneling analysis of variables toward a discrete task, problem framing guides planners to conceptualize their environments as a whole. Planners should see their efforts as part of the whole, conscious that their inputs will not remain isolated or independent of an environment. Once an operational planner team accepts they are part of a system, they may begin to understand where they fit and may start to perceive the second and third order effects of their plans. This perception should foster sensitivities to feedback loops within the system.

Unfortunately, operational planners often operate in environments that do not provide immediate feedback to rendered decisions. There often exists a significant lag period between acting upon an environment, and receiving the correlating feedback. Peter Senge, author of *The Fifth Discipline*, addressed the difficulty regarding feedback, "solutions that merely shift problems from one part of a system to another often go undetected because…those who solved the first problem are different from those who inherit the new problem."[98] Senge's comments spoke to the inherent challenge of an operational planner correlating feedback over a typical U.S. Army 12-month deployment rotation. Doerner cautioned that real world environments provided planners with limited utility in regards to honing their sensitivities and cognitive processes in

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[97]A guest speaker at the SAMS shared that President John F. Kennedy would often ask of his military planners the question: "Then what?" His questioning forced them to think beyond the first order effects, and explore previously unforeseen possibilities of second and third order effects. The speaker expressed concerns that current military planners fail to ask, "Then what?" Ironically, according to journalist Thomas Ricks, Gen. James Mattis rubbed senior civil officials wrongly in asking, "And then what?" to their proposed plans. For more on Rick's article, Thomas E. Ricks, "The Obama Administration's Inexplicable Mishandling of Marine Gen. James Mattis," The Best Defense, February 8, 2014, accessed February 8, 2014, http://ricks.foreignpolicy.com/posts/2013/01/18/the_obama_administration_s_inexplicable_mishandling_marine_gen_james_mattis.

[98]Senge, *The Fifth Discipline,* 58.

complex situations.[99] The absence of immediate feedback creates a dislocation between a

planner's intent and the actual result.[100] Thus, the inclusion of informal aspects of wargaming

into the problem framing process may help to simulate feedback and generate reframing of

problems. The process should draw out a discourse of ideas that infuse planners with a sense of

responsibility and consequence in selecting one problem over another.[101] This struggle of to

thinking in terms of systems speaks to Doerner's second challenge: anticipating the unforeseen.

With regards to anticipating the unforeseen, Doerner posited that successfully working in

a complex environment required planners to anticipate "problems [they] may not have at the

moment but that may emerge as side effects of [their] actions."[102] He contended that a planner's

tendency to focus only on the present mission (or problem) impede his or her ability to anticipate

emerging side effects.[103] The side effects surrounding the siege of Sarajevo substantiate

Doerner's point.

During the 1992-95 Serbian siege against the capital city of Sarajevo, the United Nations

conducted numerous relief operations to help relieve the suffering within Sarajevo. Flying in

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[99]Dietrich Doerner asserted that a way for improving cognitive thought in a complex situation is through the use of simulations. Doerner wrote, "Mistakes are essential to cognition;" but added that the real world does not supply enough "crises" to "pinpoint our errors" with accuracy and clarity. This argument lends credence to the value of the Yom Kippur War of 1973 Exercise conducted in AMSP. This exercise hones the students' critical thinking through multiple iterations of submitting actions to an adjudication board, and receiving feedback the following day. Doerner, *The Logic of Failure,* 199.

[100]Peter Senge addressed the issue of time concerning feedback in his book, *The Fifth Discipline.* Senge contended that organizations "learn best from experience but [they] never directly experience the consequences of many of [their] most important decisions. The most critical decisions made in organizations have system wide consequences that stretch over years or decades." Senge, *The Fifth Discipline,* 23.

[101]For an excellent article on the benefits of war gaming and simulation for military planners, refer to Peter P. Perla and Ed McGrady's "Why Wargaming Works," *War College Review* 64, no. 3 (Summer 2011): 113.

[102]Doerner, *The Logic of Failure,* 189-190.

[103]Doerner also identified that the tendency to protect one's own sense of competence, and the limited cognitive capacity of the individual to take in information may also limit one's ability to see the unforeseen. Doerner, *The Logic of Failure,* 190.

humanitarian relief packages through the Sarajevo airport was one of the ways the planners

sought to solve the problem of suffering in the capital city.   However, the Serbian military forces

that controlled the airport took a "tax" on the goods coming into the city. This skimming off the

top helped to sustain the Serbian forces.   This meant that the planners, who sought to relieve the

suffering within Sarajevo through flying in food and water through the airport, inadvertently

helped to prolonged it in part through sustaining the siege forces.[104]

U.S. Army decision-making doctrine has sought to reduce the adverse effects of

unforeseen events. The Army doctrines from the interwar period to the current ADRP

publications have all featured the statement, roughly paraphrased as: planning is a continuous

process. There is an admission here, as Doerner addressed, that unforeseeable future events will

be unveiled. Regarding problem framing specifically, ADRP 5-0 acknowledged that a

commander and staff may have to reframe. Using feedback and assessment mechanisms, the

commander determines, "what is working, what is not working, and how the force can do things

better….commanders may determine that the current plan is no longer relevant to the

situation."[105] ADRP 5-0 stated, "reframing involves revisiting earlier hypotheses, conclusions,

and decisions that underpin the operational approach. Reframing can lead to a new problem

statement and operational approach, resulting in an entirely new plan."[106]

<u>Categorization</u>

Peter Senge wrote, "you can only understand the system of a rainstorm by contemplating

the whole, not any individual part of the pattern."[107] Senge, and others, have argued that one's

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[104]Peter Andreas, *Blue Helmets and Black Markets: the Business of Survival in the Siege of Sarajevo* (Ithaca: Cornell University Press, 2008), 43-89.

[105]Department of the Army, ADRP 5-0, 2-1.

[106]Department of the Army, ADRP 5-0, 2-6.

[107]Senge, *The Fifth Discipline,* 6.

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early cognitive development centered on dividing complex problems into smaller understandable categories. For operational planners that too quickly divide to conquer a complex problem, they risk the ability to see the "consequences of [his/her] actions," and lose their "intrinsic sense of connection to the larger whole." [108]

The Mann Gulch Fire smokejumpers had a pre-constructed category of a fire prior to their arrival. They anticipated their routine of working hard during the night, and then "easing by morning."[109] The smokejumpers looked solely at the threat – the fire, and ignored the surrounding environmental factors – the foliage, the slope of the terrain, and the wind velocity. All factors that contributed to the whole of the fire.

Bryan Lawson, author of *How Designers Think*, identifies categorization as a cognitive trap. Lawson attributes this trapping to inexperience designers who "transfer solutions previously seen…[That they] may not even notice the difference or be aware of the parts of the problem which have not been addressed."[110] Lawson's category trap reflects back to Petraeus' cautioning of planners from directly lifting and shifting the Vietnam blueprint onto a new environment. Operational planners should heed this lesson, and tread carefully through problem framing.

For instance, the category trap may lead modern operational planners to mis-frame the narco-terrorism problem. This emerging relationship disabused traditional notions of the two groups (drug cartels and terror cells). For instance, a narco-terror network may consists of an Islamic terrorist cell with the tactical-level endgame of eliminating infidels; yet, relying on an

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[108]For more insight into the thought patterns and development, refer to John Dewey's *How We Think* and Richard E. Nisbett, *The Geography of Thought: How Asians and Westerners Think Differently...and Why*. Both authors, Senge and Dewey, contended that westerns tend to learn to categorize in childhood. They, also, contended that the impetus to categorize may be genetic and a function of how one's brain is hardwired – specifically Western brains. Senge, *The Fifth Discipline*, 3.

[109]Maclean, *Young Men and Fire,* 34.

[110]Bryan Lawson, *How Designers Think: The Design Process Demystified*, 4th ed. (Oxford: Architectural Press, 2006), 221.

infidel drug cartel as means of operational sustainment - such as the case of Hezbollah working with cartels in Mexico or South America.[111] Khan Mohammad, a member of the Taliban, acknowledged the dissolution of traditional categories in asserting that the means (relying on infidels) justify the ends (expunging infidels) in saying, "that Allah 'has permitted us to do…'"[112]

Problem framing's inclusion of open discourse and freedom of thought may help operational planners break away from Lawson's category trap. Doerner wrote, "our minds therefore have great difficulty grasping problems that cannot be visualized."[113] Problem framing helps commanders to understand and visualize problems in context of the environment. The conceptual nature of the ADM, and by extension problem framing, lends itself to exploratory thinking and rendering a decision. Additionally, the practice of problem framing with in an OPT favors new ideas and new perspectives. In theory, the practice of problem framing should be done in a group setting to allow for fresh takes on a situation – vice stovepipe thinking or regurgitation of pre-existing theories to new anomalies.[114]

<center>Constructed Biases</center>

Individually and organizationally constructed biases may create hurdles for operational planners to overcome in problem framing. Similar to Berger and Luckmann's notions on social construction, John Dewey, author of *How We Think,* wrote,

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[111]Jacobson and Levitt, "Tracking Narco-Terrorism Networks," 121.

[112]Jacobson and Levitt, "Tracking Narco-Terrorism Networks," 119.

[113]Doerner, *The Logic of Failure*,6.

[114]Jonah Lehrer's article attested to the value of discourse and challenging old notions. In it, he showed how two groups of scientist went about solving a common problem concerning *E. coli*. The first group, comprised of *E. coli* experts, quickly delve into analytic experiments to determine a solution. However, the second group, a multi-disciplined group, "mulled the problem at a group meeting," and "began wide-ranging discussion of possible solutions." In the end, the latter group solved the problem quicker and more efficiently. Jonah Lehrer, "Accept Defeat: The Neuroscience of Screwing Up," *Wired*, December 21, 2009, 7, accessed February 22, 2014, http://www.wired.com/magazine/2009/12/fail_accept_defeat/.

<center>43</center>

For men, when they are grown up, reflecting upon their opinions and finding those of this sort to be as ancient in their minds as their very memories, not having observed their early insinuation, nor by what mean they got them they are apt to reverence them as sacred things, and not to suffer them to be profaned, touched, or questioned.[115]

Overcoming one's biases and perceptions may require more than doctrine. Ramo argued that empathy will help to reduce ethnocentric perceptions. With empathy, he posited, "you improve your chances of not missing that signs that something, something important, [is] about to change."[116] This is easier said than done in the highly kinetic and frenetic environments planners find themselves. From the interwar period to the current, doctrine has emphasized that situations require commanders to make decisions rapidly on a battlefield or in an operational environment. Doerner attributes "time pressure" to why planners fall back on "established measures" and seem unable to "think in terms of nonlinear networks."[117] Consider the following two examples of how constructed biases seemed to blur the clarity these problem framers.

In his book, *Fiasco*, Ricks relayed a story regarding, then Secretary of Defense, Donald Rumsfeld's reaction, of "shock and disillusion," at OIF intelligence reports that did not fit into his predisposed paradigm of state warfare. The low intensity conflict of Iraq conflicted with the intelligence paradigms of Rumsfeld's upbringing. He had invested "decades with an intelligence community that was focused on one question: the Soviet order of battle."[118] In addition to Ricks' story, the Frontline PBS documentary, *Bush's War*, portrayed Rumsfeld as unable to conceive that Usama bin Laden had executed the 9/11 attacks with out the backing from a state – namely,

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[115]John Dewey, *How We Think* (New York, Prometheus Books, 1991), 24.

[116]Joshua Ramo, *The Age of the Unthinkable: Why the New World Disorder Constantly Surprises Us and What We Can Do About It* (New York: Little, Brown and Company, 2009), 164.

[117]Doerner, *The Logic of Failure,* 33.

[118]Ricks, *Fiasco*, 32.

Iraq.[119] This biased view manifested into a narrative that helped to influenced framing Iraq as the problem, and not Afghanistan, and arguable informed the decision to invade Iraq.

From the strategic to the tactical level, the rapidly changing character of warfare in Iraq challenged how many Army soldiers perceived their roles. Despite Army doctrine capturing the essence of full spectrum operations well before the invasion of Iraq, military planners and operators still struggled with reconciling their dispositions with reality on the ground. As one officer attested to, "I was on a street corner in Baghdad, smoking a cigar, watching some guys carry a sofa by – and it never occurred to me that I was going to be the guy to go get that sofa back."[120]

These simple vignettes demonstrate the two concepts that Senge posited: "What we see depends on what we are prepared to see," and "very often, we are not consciously aware of our mental models or the effects they have on our behavior."[121] Similarly, in his book, *Blink*, Malcolm Gladwell argued that words and ideas may bias one's mind and influence action.[122] If what the two examples demonstrated, and what Senge and Malcolm have argue hold true, then operational planners should realize that doctrine and personal experience may have cognitive effects on them – effects that may impede or help them to appropriately frame a problem.

Problem framing within the ADM promotes open discourse, which helps to breakdown biases and preconceived dispositions. This discourse should go beyond the traditional staff meetings or an OPT's routine progress report meetings. Through discourse – vice the charts, metrics and calculations – a commander and staff may develop Ramo's sense of empathy. ADRP

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[119]*Bush's War*, directed by Michael Kirk (PBS, 2008), accessed February 8, 2014, http://www.pbs.org/wgbh/pages/frontline/bushswar/view/.

[120]Ricks, *Fiasco,*152.

[121]Senge, *The Fifth Discipline,* 73 and 8.

[122]Malcolm Gladwell, *Blink: the Power of Thinking Without Thinking* (New York: Back Bay Books, 2007), 53-61.

5-0 stated, "the [ADM] involves deliberately framing an operational environment and problem through dialogue and critical and creative thinking by a group."[123] Instep with Gladwell's commentary on priming the mind, ADRP 5-0 cautioned, "how individuals or groups frame a problem will influence potential solutions. For example, an organization that frames an insurgent group as 'freedom fighters' probably will approach solving a conflict differently from an organization that frames the insurgent group as 'terrorists.'"[124]

In summary, the failure to think in terms of systems, to resist the urge to categorize, and to overcome personal biases may impede today's operational planners. Fortunately, contemporary theorists and doctrine writers have refined the Army's decision-making tools to help planners work through these challenges. The nature of planning as a continuous process remains alive and well in current doctrine, and specifically in the nuances of problem framing doctrine. One may argue that more than ever, doctrine has explicitly codified that changing a plan – or reframing – is not only permissible, but expected given the complexity and ever changing conditions of the operating environments. Furthermore, through narrative and discourse, OPTs and commanders break apart pre-exists molds, ideas and dispositions. In doing so, OPTs may more accurately frame the tensions and variables that impede progress towards a commander's desired end state.

CONCLUSION

> Military operations are complex, human endeavors characterized by the continuous, mutual adaptation of give and take, moves, and countermoves among all participants. The enemy is not an inanimate object to be acted upon.
>
> —ADRP 6-0: *Mission Command* (2012)

Problem framing has not always been codified in U.S. Army doctrine. Its current section within ADRP 5-0, nested under the conceptual planning methodology, is a relatively new

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[123]Department of the Army, ADRP 5-0, 2-5.

[124]Department of the Army, ADRP 5-0, 2-5.

addition to doctrine. Though, one may argue that commanders, staff, and planners have implicitly conducted problem framing through each of the four periods addressed in this analysis. Such an argument would be difficult to counter. However, the complexities that inhabit the contemporary operating environments require more than an implicit act or thought of framing a problem.

Analyzing the decision-making doctrine of the four periods addressed (the Interwar Period, the Containment War Period, the AirLand Battle Period, and the OIF/OEF Period) reveal two sustained themes. First, the U.S. Army's operating environments have grown, and may continue to grown, in complexity. The actors and variables that make up an environment are becoming more interdependent and more interconnected.

Second, an operational planner would do well to understand the root theories and anomalies that his or her decision-making doctrine looks to addressed. Just as an environment may influence doctrine writers, the published doctrine may very well shape how a planner frames his or her environment and its problem(s). That noted, doctrine has matured and shifted as needed to help planners. Each of FM 100-5 and/or FM 101-5 publications and the current ADRP publications anticipated the potential challenges, and structured tools to aid planners in developing viable options for their commanders. The current ADRP 5-0, notably, provides sufficient support to the planner to overcome not only environmental challenges, but cognitive challenges. This should provide some comfort to planners, as there will be undoubtedly no shortage of commanders with complexity problems requiring options to render a decision.

Current U.S. Army leaders and organizations will expect operational planners, and for that matter field grade officers, to think criticality. Once upon a time, an Army study found that

the majority of senior military officers desired an Army of doers, not thinkers.[125] However, the complexities of today's operational environments render such desires as obsolete. Success in these environments may require planners at the operational level to think beyond analytics and categories in order to determine root cause(s) of a crisis.

Thus, planners should be aware of the obstacles they may bring into the problem framing process; specifically challenges associated with planning in complexity, relying on categorical analysis and overcoming constructed biases. Each of these hurdles will take awareness and practice to successful jump over, and a responsible planner will make the necessary efforts.   The following recommendations provide some help to those efforts.

RECOMMENDATIONS

Concerning the continued development of planners as problem framers, the following three recommendations may assist with cultivating the requisite critical and creative thinking skills required to frame complex problems. The U.S. Army should consider: merging the army design methodology with the military decision-making process to form a single decision-making process, re-titling of the first step ("Receipt of Mission") of the MDMP, and increasing the use of feedback in exercises conducted at the Command and General Staff College.

The Army should consider merging the ADM and the MDMP into a single decision-making process. Although doctrine directs that the two methodologies shall be used inclusive of each other, the doctrinal separation of the two leads to practical separation of the two.   Army leaders with more experience using the MDMP may have a propensity to favor using it over

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[125]The 1978 study notes, "it is difficult if not impossible for young officers to perceive themselves as 'thinkers and deciders' and to commit themselves to a life of continuing learning, if authorities tell them that schooling is too costly, that advanced learning is not necessary for professional advancement, and that military officers need not to be educated to the same level as their civilian counterparts." General Staff, Officer Training and Education Review Group, *Review of Education and Training for Officers* (RETO), vol. 6, (Washington, DC: Headquarters, Department of the Army, 30 June 1978), III-25.

design concepts, and may consider the ADM higher's planning tool to use; or a CGCS graduate

may see the ADM as something that only an AMSP graduate would use. Likewise, the institution

of Intermediate Level Education may continue to hedge it focus towards the MDMP, and regard

the ADM as an AMSP area of focus. By keeping the two methodologies separated in doctrine,

the Army runs the risk of the two never fully being integrated in practice.

The integration of these methodologies is not unprecedented. The current Marine Corps

Warfighting Publication 5-1: *The Marine Corps Planning Process* has integrated the

methodologies of conceptual and detailed planning into single decision-making process. The

Marine Corps Planning Process (MCPP) directs commanders and staff to use concepts of design

(conceptual planning) through out the detailed planning process. The MCWP 5-1 stated, "Design

is a continuous activity and must never be viewed as an isolated event occurring only during

problem framing. It occurs throughout the planning-execution-assessment continuum."[126]

Additionally, the MCPP identified "Problem Framing" as Step 1 of its process. As opposed to

the vague guidance ADRP 5-0 provided for Army operational planners to practice problem

framing, the MCPP provides a very structured approach to framing the problem.[127] That said, one

might argue that the vague guidance found in ADRP 5-0 allows for critical and creative latitude

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[126]Department of the Navy, Marine Corps Warfighting Publication 5-1: *The Marine Corp Planning Process* (Washington, DC: Headquarters of the United States Marine Corps, 2010), 1-4.

[127]The MCPP divides problem framing into sections: Design and Staff Actions. These two sections are then divided further into sub-sections. The Design section includes: Commander's Orientation, Understanding the Environment, Understanding the Problem, and Commander's Initial Intent and Guidance. The Staff Actions section includes: Analyze Tasks, Analyze Centers of Gravity, Develop Assumptions, Determine Constraints, Develop the Mission Statement, and staff estimate activities. As appropriate these sub-sections are further sub-divided in the MCWP 5-1. MCWP 5-1, 2-1 thru 2-7. In contrast to the structure of the problem framing step of the MCPP, the ADRP 5-0 provides two questions for a planner to answer to assist with the problem framing process: "what is the difference between the current state and the desired state of the operational environment;" and "what is preventing US forces from reaching the desired end state?" Department of the Army, ADRP 5-0, 2-9.

of thought. However, the vagueness also may discourage new or novice users.

The Army should consider re-titling Step 1 on the MDMP. Currently, as it has from interwar period's Estimate of the Situation, the MDMP identifies "Receipt of Mission" as its first step. The current title of "Receipt of Mission" may lull the minds of an OPT into framing the "mission" from higher's order, in lieu of framing the problem. Furthermore, the title of the step poorly communicates the actions that actually transpire. As is often the case at the operational level, a higher headquarters' order provides specified tasks, not a mission, to a subordinate command. Additionally, prior to the completion of its formal order, a high headquarters' staff may release insights into the commander's intent to the lower echelon to initiate parallel planning. These acts demonstrate that lower echelon planners receive tasks and guidance, not a mission. Therefore, the re-titling Step 1 as "Problem Framing" or "Receipt of Commander's Intent," may allow for lower echelon planners to act with greater cognitive latitude – thus, they may think more critically and creatively.

Lastly, the Army should consider re-tooling the professional military education exercise programs at the Command and General Staff College (CGSC). The majority of current student exercises run the students through the MDMP with the aim of producing staff products for assessment.   The students ascertain a better understanding of working as a staff and the capabilities of various warfighting functions at various echelons, but the students do not necessarily hone their critical and creative thinking skills. To help strengthen these skill sets, two suggestions should be considered: limit the exercises with pre-templated enemy forces and increase the practice exercises that employ feedback mechanisms.

Concerning the first recommendation, the student exercises should place students in foggy, murky environments that cause them to interpret the good guys from the "lesser good" guys. Doerner wrote, "Geniuses are geniuses by birth, where as the wise gain their wisdom through experience. And it seems to me that the ability to deal with problems in the most

appropriate way is the hallmark of wisdom rather than genius."[128] Today's environments place

company and field grade commanders and staffs in areas of operation that cultivate, and brew

with, ambiguity. Planners require training at discerning good from lesser good – not only in

terms of actors, but also of intentions, relationships, and anticipate actions. This notion harkens

back to President Kennedy's expectation of the West Point cadets: "to determine what represents

our vital interests and what interests are only marginal.[129]

In his book, *Systems Thinking*, Gharajedaghi noted, "The story should consider the

stake, influence and interest of the relevant stake holders. It should not assess blame….

Remember, the world is not run by those who are right, it is run by those who can convince other

that they are right."[130] Giving the students a predefined enemy template disengages thinking

through these considerations. The practice requiring students to choose between ally and

adversary compels them to make uncomfortable decisions – decisions that they may produce the

emotional or mental feedback within of feeling responsible for and the consequences thereof.[131]

This leads to the second point: increasing the practice of exercises that employ feedback

mechanisms.

Dietrich Doerner posited that feedback generation potential of exercises and simulations

may help to hone one's ability to think in terms of complex systems. Too often, as Senge and

Doerner pointed out earlier in this investigation, operational planners do not see the feedback

from the efforts they have inserted into an environment. This dislocation between decision and

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[128]Doerner, *The Logic of Failure,* 193.

[129]Kennedy, "Remarks at West Point to the Graduating Class of the U.S. Military Academy."

[130]Gharajedaghi, *Systems Thinking,* 140.

[131]The notion of stirring feelings of responsibility and consequence concerning decision comes from the article, "Why Wargaming Works." The article, amongst other aspects of wargaming, stresses the value of instilling a sense of responsibility and consequence as part of the overall learning experience. Perla and McGrady, "Why Wargaming Works," 113.

feedback tends to marginal value value in terms of learning to think critically.[132] Thus, implementing exercises at CGSC that provide direct feedback to a decision may help planners to better think through complexity. Currently, only the AMSP conducts such an exercise.

The AMSP Yom Kippur War Exercise provides a great template for a feedback-type exercise. The exercise allows students (in groups representing Israel, Egypt, Syria and Jordan) to conduct conceptual and detailed planning, and submit command decisions at the close of each day. The AMSP instructors collect the decisions, and render adjudications to each of the groups. Thus, students may see the first and second order effects of their decisions. The students must assess their effects against their current plan, and determine if their current plan is appropriate or if they needed to reframe their approach.

Seeing through the fog of complex environments requires that operational planners think criticality and creatively to frame problems. During the tenure of one's career, most operational planners will be tasked with planning a "poultry plant in Baghdad" of their own. Amidst the organizational fanfare and determination to construct the best possible poultry plant, an operational planner should look to sufficiently frame the problem and offer greater understanding and visual acuity to the commander. In the end, a planner, that has shouldered the rigor of properly framing a problem, may take solace in knowing they may have found a path through the fog.

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[132]Doerner, *The Logic of Failure,* 199.

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